

BILL # HB2311

SPONSOR: Rep. Sinema

PREPARED BY: Eric Billings, Leatta McLaughlin

TITLE: public buildings; energy; environmental standards

STATUS: Government/Rules Committee

FISCAL ANALYSIS

Description

This bill would require all new buildings over 5,000 square feet and all building renovations over 50% of the assessed value to be in compliance with Leadership in Energy Efficiency Design (LEED) silver standards. The U.S. Green Building Council provides the LEED standards which are a national standard for developing sustainable buildings.

Estimated Impact

This bill is expected to increase capital costs by 1% to 10%. In turn, the design changes may reduce utility costs by 15% to 35%.

The state's capital costs vary significantly from year to year. The one on-going General Fund cost of the bill is the SFB's new school construction. Based on SFB's estimate that implementing the LEED standards would increase costs by at least 5%, LEED standards would increase the FY 2009 cost by \$1.1 million and \$21 million annually once fully implemented in FY 2014. This assumes cash payment for all construction, which is the current practice for SFB.

The total capital cost per year for Universities is \$144.3 million. Universities estimate that LEED standards would increase the cost of construction by 1% to 2% or \$2,054,000 to \$2,886,200 a year. This would typically not result in a direct General Fund cost as most projects are funded through revenue bonds paid for by user fees or tuition revenues.

The bill will also impact construction in the Arizona Department of Transportation (ADOT), Community Colleges, Arizona Department of Administration (ADOA) systems. These systems have provided insufficient information to make an estimate of the General Fund cost. If additions or buildings are authorized in the ADOA system it would increase the General Fund impact of the bill.

Table 1 illustrates the estimated annual impact of upgrading to LEED silver standards. Agencies listed as NA have not supplied responses sufficient to make a General Fund or Other Fund estimate at this time.

Table 1

Estimated Annual Impact of Upgrading to LEED Silver Standards

Agencies	General Fund	Other Funds
ADOA	NA	NA
ADOT	NA	NA
Community Colleges ^{1/}	NA	NA
SFB	\$21,012,700 ^{2/}	-0-
Arizona State University	-0-	\$601,100 - \$1,202,200
Northern Arizona University	-0-	\$231,100 - \$462,200
University of Arizona	-0-	\$1,221,800
Total	\$21,012,700	\$2,054,000 - \$2,886,200

^{1/} Mohave, Cochise, Yavapai, Maricopa, and Arizona Western Communities Colleges provided responses. Only Yavapai, Maricopa, and Arizona Western College reported any construction in the past year with a combined, estimated other fund impact of \$468,900.

^{2/} This assumes the annual cost five years after implementation and for every year thereafter.

This bill also includes a provision that buildings undergoing renovation that results in costs in excess of 50% of the assessed value must be in compliance with LEED silver standards. Due to the uncertainty in frequency and magnitude of renovations, the impact is unknown.

Requiring all new construction and major renovations to meet LEED silver standards may result in cost savings through lowered energy and water consumption. Agencies estimated that these standards would allow them to save approximately 15% – 35% on their current energy and water costs. Based on the assumption of 20% to 30% greater energy efficiency for both ASU and NAU, estimated annual cost savings of \$3.3 million to \$4.9 million and \$1.3 million to \$2 million, respectively, would accrue to other fund sources. Based on Mesa Unified School District expenditures, it is estimated that school districts spend approximately \$287 per pupil for utilities, or about \$172,200 for elementary schools and \$574,000 for high schools. Any savings from reduced usage would accrue to local school districts.

Analysis

School Facilities Board

SFB provides funding to public school districts across the state to finance new school construction projects based on a statutory new construction formula. A district is eligible for a new school when SFB has determined that the district will not have enough building space to house its student population. This bill would require all schools to be built to LEED silver standards. SFB estimates that this bill will increase the new construction formula by adding at least 5% on to the total cost of the formula to pay for energy efficiency elements.

SFB on average has approved 35 new school construction projects each year since the agency's establishment in FY 1999. The average size of the schools construction since FY 1999 is 82,000 square feet. Currently, the average statutory cost per square foot to build a school is \$146.43. Based on those assumptions, SFB would approve \$420 million worth of new school projects in a year. Under this bill, SFB assumes each district would require at least an additional 5%, which would add \$21 million onto the current estimated annual approval amount.

SFB historically has spent about 5% of the total approval amount in the year the approvals were made, with the remainder spent over the next 5 years. Based on the historic spend-out pattern, SFB would spend an additional \$1.1 million in FY 2009. By FY 2014, once fully implemented, the bill would increase SFB spending by \$21 million.

Universities

The Universities estimate that their additional costs associated with upgrading to LEED silver standards will fall somewhere in the range of 1% to 2% of the total cost of construction.

Among the three state universities, the highest number of new construction projects annually since FY 1999 is 3.5 for the University of Arizona. NAU reported 1.33 new buildings beginning construction per year with ASU reporting 2.6. The average cost per square foot for these buildings is \$181 for NAU, \$206 for UA, and \$248 for ASU. These estimates result in average annual new construction costs of \$23 million for NAU, \$61 million for UA, and \$60 million for ASU. The additional costs associated with complying with LEED silver standards would total \$231,100 to \$462,200 for NAU, \$1,221,806 for UA, and \$601,100 to \$1,202,200 for ASU.

Arizona Department of Administration

ADOA is responsible for the oversight of the design and construction, or lease of non-university state office buildings and prisons. The department also operates properties and provides maintenance, janitorial, and landscaping services. ADOA estimates that this bill will increase construction costs by 3% to 5%.

ADOA on average has begun construction of 1.1 buildings per year since FY 1999. The average size of these buildings is 162,500 square feet at an average cost of \$250 per square foot. Under this bill, the costs of compliance with LEED silver standards would range from \$1,340,600 to \$2,234,400. These costs are derived from the estimated 3% to 5% increase in costs above the annual construction costs incurred by ADOA of \$44 million. It is unclear how much of this could be attributed to the General Fund.

Community Colleges

Of the five respondents - Mohave, Cochise, Yavapai, Maricopa, and Arizona Western College - only Yavapai, Maricopa, and Arizona Western College reported any construction in the past fiscal year. These three colleges reported construction costs of

\$2 million for Yavapai, \$2.5 million for Maricopa, and \$3 million for Arizona Western. Yavapai reported that upgrading to LEED silver standards would add an additional 10% to total construction costs with Maricopa and Arizona Western reporting 4% and 5% respectively. These estimates translate to additional annual construction costs of \$218,700, \$101,200, and \$149,000 for Yavapai, Maricopa, and Arizona Western colleges respectively.

Local Government Impact

Increasing new construction funding expenditures for energy efficiency equipment would result in operating cost savings for school districts and Community Colleges. The cost savings would result from lower energy and water consumption. SFB estimates that total new construction approvals each year would save approximately 5.3 million kilowatts of electricity per year based on the LEED standard of reducing energy consumption by 15%. Regarding water usage, the LEED standard is a 20% reduction, which SFB estimates would result in savings of 8-12 million gallons of water annually. Community Colleges did not provide an estimate of efficiency savings.